1 OHM HIGH CURRENT SERIES AMPLIFIERS
A1300HCT / A1500HCT

OPERATING INTSTRUCTIONS
PLEASE RETAIN MANUAL FOR FUTURE USE AND REFERENCE

The Audiobahn Way

To bring the product to market that excites the consumer through sound and vision from an orientation of integrity and customer service. We make you look as good as you sound. We strive to take car audio to an extreme the world has never seen, and a world that never stops evolving.

Audiobahn was established in 1997 with one long-term goal in mind, "**Build it Bigger, Badder, & Better, and the people will take notice!"** We back this statement with an engineering team that has brought home several Innovations, Design & Engineering Showcase Awards, and a marketing team from around the world that spends countless hours developing our no compromise products to satisfy the most discriminating enthusiasts.

Our global manufacturing facilities feature ISO9002 ratings (the highest level of quality control awarded in the electronics manufacturing industry), fully robotic assembly lines and a state of the art, California based R & D laboratory.

Due to overwhelming response from our competitors, and our goal to participate in even more events this year, we created *"TEAM AUDIOBAHN." This organization is designed to create a support network along with shirts and perks for team members. "TEAM AUDIOBAHN" is not only for the diehard competitor, but also for anyone that loves car audio as much as we do. With four levels of play, one is right for you to get started in the Audiobahn family.

Our Technical Department and entire staff look to strive above and beyond the rest of the pack by going that extra mile to help you out. Whether you happen to be a veteran competitor, or a beginner car audio enthusiast who does not know a voice coil from a spider. We are all her to help you get the best system you can with what you have.

Judge for yourself, and remember what it's all about, **"If it's not Bigger, Badder & Better, it's not Audiobahn."** If audio is your life, Audiobahn is the brand for you! We make you look as good as you sound. People never stop trying to get the best product, so we will never stop making it.

*To learn more about "TEAM AUDIOBAHN" please give us a call, see our website at www.audiobahn.com, or email us at team@audiobahn.com to learn about all the details.

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Introduction

Dear Customer,

Congratulations on your purchase of the worlds finest brand of car audio products. Here at Audiobahn Inc. we are devoted to making our musical reproduction the vert best, and we are pleased you have chosen our product. Through years of engineering expertise, hand craftsmanship, and critical testing procedures, we have created a wide range of products that reproduce music with all the clarity and richness you deserve.

For maximum performance we recommend you have your Audiobahn product installed by an Authorized Audiobahn Dealer, as we provide specialized training through our Audiobahn Installer Training Programs. Please read your warranty, keep your receipt, and original carton for possible future use.

To get a free brochure on Audiobahn products in the US call (714) 988-0400 or e-mail us at sales@audiobahn.com.

WARNING

Continuous exposure to sound pressure levels over 100dB may cause permanent hearing loss. High powered autosound systems may produce sound pressure levels well over 135dB. Need we say more! Use common sense.

If after reading this manual you still have questions regarding your product, we recommend that you see your nearest Audiobahn Dealer. A list of Authorized Audiobahn Dealers can be found on our web page. If you need further assistance, feel free to call us at (800) 488-8595 and ask for the Technical Department. Be sure to have the model number, date of purchase, and invoice number available when you call.

The model number can be located on the outside of the carton. Record this in the space provided below along with the date of purchase. It is a good idea to keep your receipt with this as you will need it in the case of needing a warranty, repair service or exchange.

Model Number:_____ Date of Purchase: _____

Features and Specifications

FEATURES

- 1 OHM STABLE
- HIGH CURRENT, NON-REGULATED POWER SUPPLY
- DOUBLE SIDED PCB
- AIR INDUCTION DUAL COOLING FANS (THERMAL REGULATED)
- 24dB SLOPE CROSSOVER
- 18db VARIABLE FREQUENCY, VARIABLE BASS BOOST
- BASS REMOTE CONTROL
- CHROME ON THE FIRE FLAME
- CLEAR POWER AND SPEAKER CONNECTIONS
- L.E.D.BLUE ILLUMINATION HEAT SINK
- ON/OFF SWITCH FOR ILLUMINATION
- ILLUMINATED AUDIOBAHN NAME PLATE
- BLUE ILLUMINATION VU METERS
- RED / BLUE L.E.D. ON THE BASS REMOTE FOR CLIPPING
- ILLUMINATION CIRCUIT BOARD

SPECIFICATIONS

- **POWER OUTPUT**

A1300HCT 2400 WATTS ACH POWER

INTO 4 OHMS @ 12.5V DC.	1x300 Watts RMS Power
INTO 2 OHMS @ 12.5V DC.	1x600 Watts RMS Power
INTO 1 OHMS @ 12.5V DC.	1x1200 Watts RMS Power

A1500HCT 4000 WATTS ACH POWER

INTO 4 OHMS @ 12.5V DC.	1x500 Watts RMS Power
INTO 2 OHMS @ 12.5V DC.	1x1000 Watts RMS Power
INTO 1 OHMS @ 12.5V DC.	1x2000 Watts RMS Power

BASS BOOST FREQUENCY RANGE	40Hz To 100Hz
VARIABLE BASS BOOST	0 - 18dB
FREQUENCY RESPONSE	±1dB from 10Hz to 40KHz
SIGNAL TO NOISE RATIO	>100dB
INPUT SENSITIVITY	200mV to 8V
CHANNEL SEPARATION (AT1W)	>50dB
DAMPING FACTOR (AT 1W / 50Hz)	>240
SUBSONIC FILTER VARIABLE	20Hz to 50Hz
TYPICAL CURRENT DRAW AT IDLE	1.4 Amps

- RECOMMENDED FUSE SIZE

A1300HCT : 30 x 3
A1500HCT : 40 x 3

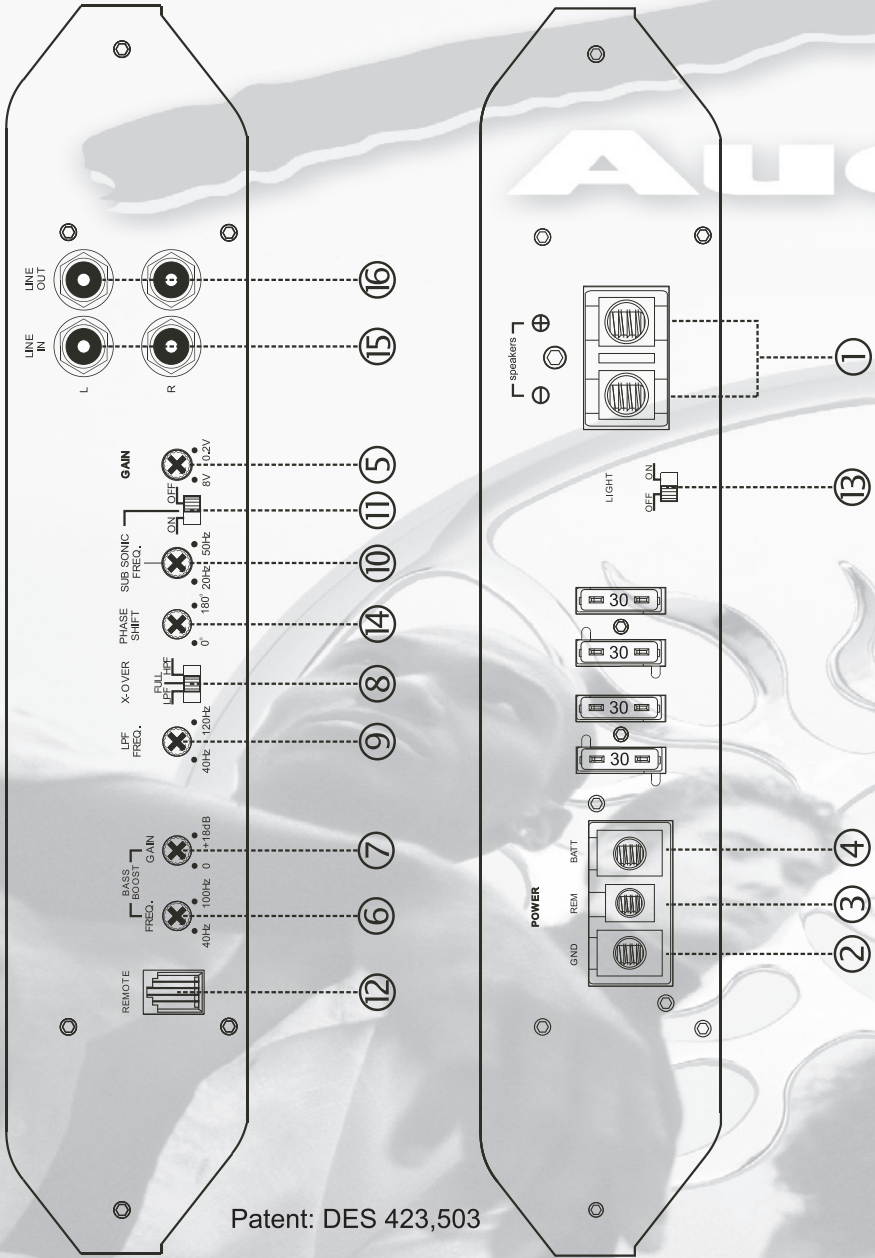
ACH is equal to achievable power

- DIMENSIONS plus Flame

A1300HCT (W x H x L) : 11 15/16" x 2 1/2" x 16" Flame 1 3/16"
A1500HCT (W x H x L) : 11 15/16" x 2 1/2" x 18 1/2" 1"

Controls and Functions

A1300HCT / A1500HCT



Patent: DES 423,503

Controls and Functions

1. SPEAKER TERMINALS

(A1300HCT / A1500HCT)

These chrome plated connectors can accept from 16 to 8 gauge wire. Be careful to observe proper polarity when connecting the cables.

2. Chassis GROUND :

To avoid unwanted ignition noise caused by ground loops, it is essential that the amplifier be grounded to a clean, bare, metal surface of the vehicles chassis. The chrome plated connector can accept from 8 to 4 gauge wire.

NOTE : THE GROUND WIRE SHOULD BE CONNECTED TO A STURDY PART OF THE VEHICLE AND SHOULD NOT BE LONGER THEN 3 FT (1 METER)

3. REMOTE TURN-ON INPUT :

To remote or power antenna output of car stereo. This amplifier is turned "ON" remotely when the vehicle's stereo is turned "ON".

NOTE: IF YOUR RADIO DOES NOT HAVE A +12 VOLT OUTPUT LEAD WHEN THE RADIO IS TURNED ON, THE "REMOTE" TERMINAL ON THE AMPLIFIER CAN BE CONNECTED TO THE VEHICLES ACCESSORIES CIRCUIT THAT IS LIVE WHEN THE KEY IS "ON"

4. BATTERY POSITIVE TERMINAL

Due to the power requirements of the amplifier, this connection should be made directly to the positive (+) terminal of the battery. For a safety measure, install an in-line fuse within 16" of the battery, with an ampere rating NOT to exceed the total value of the fuses on the amplifier.

5. INPUT SENSITIVITY ADJUSTMENT

This control adjusts the amplifiers input sensitivity. Input sensitivity is variable from 200 millivolts to 8 volts. Clockwise increases sensitivity and counterclockwise decreases sensitivity. This knob is not a volume control for the amplifier. The amplifier can be driven to full power with a wide range of signal levels. A lower signal level will require increased sensivitiy for full power, while a higher signal level will require decreased sensitivity.

6. BASS BOOST FREQUENCY ADJUSTMENT

This contol adjusts the frequency to be boosted from (40Hz to 120Hz). It will only work in LPF.

7. BASS BOOST GAIN ADJUSTMENT

This control adjust the Bass Boost Gain for the amplifier's speaker output (0 to +18dB). It will only work in LPF Mode.

8. CROSSOVER

Adjust the crossover for your chosen installatioin method.

LPF : Low pass filter-only bass tones (40Hz-120Hz and lower) go to speakers.
(Use with woofer or sub-woofer only)

FULL : No filter all tones go to speakers.
(Use with full-range speakers only)

9. VARIABLE LOW-PASS FILTER (40Hz-120Hz)

For use as a dedicated subwoofer channel, set filter switch to "LPF." Adjust variable crossover frequency with control as desired. The amplifier input circuit filters out everything above 40Hz...120Hz (dependent on the adjustment of the frequency control).

10. VARIABLE SUBSONIC FILTER (20Hz-50Hz)

11. SWITCH SUBSONIC FILTER (ON/OFF)

12. BASS REMOTE CONTROL (MIN / MAX)-fig.1

13. LIGHT SWITCH : (ON / OFF SWITCH FOR ILLUMINATION)

14. PHASE SHIFT CONTROL (0 to 180 DEGREES)

Allows you to change the phase of your subwoofer from 0 to 180 degrees to help compensate for timing differences between drivers

15. LOW LEVEL INPUT RCA JACKS

These inputs are for signal cables from the source unit. Always use high quality shielded RCA cables.

16. LINE OUT

The line out allows you to build multiple amplifier systems without having to use a splitter cord to distrubute the signal. Now it is simply a matter of bringing one set of RCA's into the first amplifier, then using the line out RCA jacks as the feed to the next amplifier.

17. LED INDICATOR (STATUS)-Fig 2

-RED (Protection) : The amplifier protection circuitry will disable the amplifier if input overload, short circuit or extremely high temperature conditions are detected.

-RED+BLUE (THERMAL) : Turns on due to excessive heat sink temperatures. The amplifier will reset when the temperature falls to a safe operating level. This usually occurs from a lack of ventilation. Make sure that the intake and exhaust vents are not blocked.

-BLUE (POWER) : Turns on when the amplifier is on, indicating that the amplifier is functioning properly.

Fig 1.

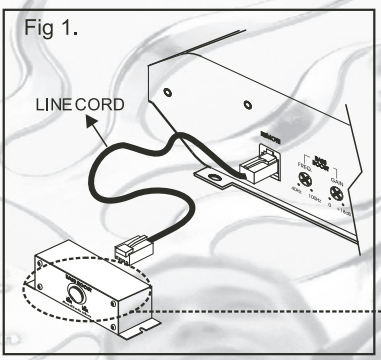
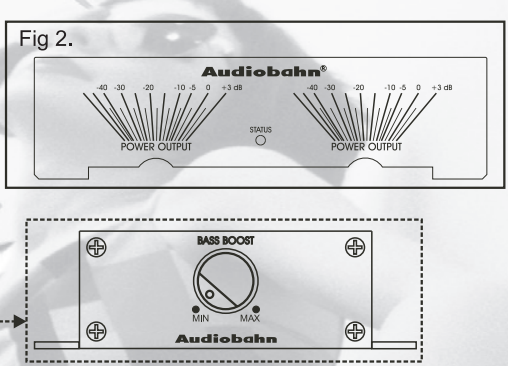


Fig 2.



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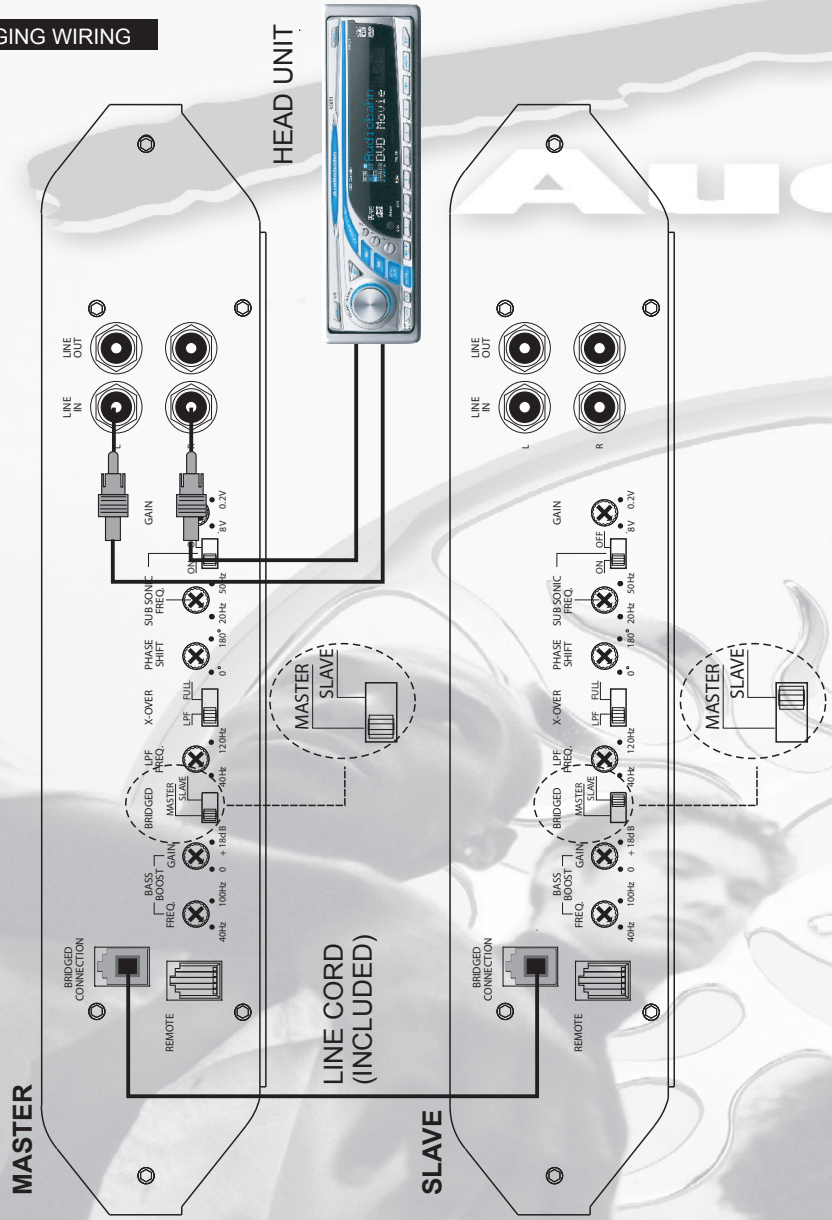
BRIDGING WIRING



IF BRIDGED SWITCH POSITION IS ON SLAVE, ALL CONTROLS ARE NON-FUNCTIONAL.
ALL CONTROLS ARE NOW CONTROLLED BY THE MASTER AMPLIFIER.

Planning Your System

Before beginning the installation, consider the following:

a. If you plan to expand your system by adding other components sometime in the future, ensure that adequate space is left, and cooling requirements are met.
If your radio/source is equipped with Pre-Amp outputs, it is possible to utilize them to drive an Amplifier and connecting (Amplifier) to the 2 rear speakers.
Then, use the built-in power of your radio to drive the 2 front speakers.

NOTE:

DISTORTION LEVEL IS CONSIDERABLY LOWER FROM PRE-AMP (LOW LEVEL) OUTPUTS, THAN SPEAKER (HIGH LEVEL) OUTPUTS.

b. Are your components matched? The RMS power rating of your speakers must be equal or greater than the Amplifier's. They also must be 1-8 Ohms impedance (this information is normally printed on the speaker magnet).

c. Consider both the length of your leads, and routing when determining the mounting location. Pre-Amp input Jacks require a length of high quality shielded male to male RCA patch cord.

Mounting Your System

The mounting position of your Amplifier will have a great effect on its ability to dissipate the heat generated during normal operation. It has an ample heat sink for heat dissipation, and also is designed with a thermal shut-down (for heat protection)circuit, having enough air directed over the cooling fins will improve heat dissipation dramatically. DO NOT enclose the amplifier in a small box or cover it so that air can not flow around the fins. Temperatures in car trunks have been measured as high as (155° F) in the summer time. Since the thermal shut-down point for the Amplifier is (158° F) it is easy to see that it must be mounted for maximum cooling capability. To achieve the maximum advantage of convection air flow in an enclosed trunk, mount the amplifier in a horizontal position. Cooling requirements are considerably relaxed when mounting inside the passenger compartment since the driver will not allow temperatures to reach a critical point. Floor mounting under the seat is usually satisfactory as long as there is at least 1 inch (2.54 cm) above the Amplifier's fins for ventilation.

a. Select a suitable location that is convenient for mounting, accessible for wiring and has ample room for air circulation and cooling.

b. Use the amplifier as a template to mark the mounting holes. Remove the amplifier and drill holes. Use extreme caution. Inspect underneath the surfaces before drilling!

c. Secure the Amplifier using the screws provided.

CAUTION: Before connecting any wires to the amplifier, disconnect the ground lead from the battery. Leave the ground lead disconnected until you are done wiring the amplifier.

ADJUSTING THE GAIN / LEVEL SETTING

Below you will find information on adjusting the amplifiers gains. Adjusting the gain correctly is essential to proper operation of the amplifier. **If the gain is not adjusted properly it can and will lead to damage of the amplifier and connected speakers and will void your MANUFACTURER WARRANTY**. The gain on an amplifier is not a volume control. It is a signal level setting that tells the amplifier how strong of a signal is coming from the head unit. Your amplifier has an input sensitivity of 200mV-8V. The minimum setting is 8V and the maximum setting is 200mV. Minimum meaning the head unit or processor has an 8V output and the maximum meaning it has a 200mV output.

When using **Low-Level (RCA) inputs** you MUST know what the pre-out or line-out voltage of your head unit is rate din Volts. This is not the wattage rating. This can be found in the manaul of the head unit or by contacting the manufacturer. If you are using a line-driver or another type of processor that adjusts the output voltage of the signal to the amplifier you will nee dto know what the output is adjusted to. the gain on the amplifier needs to be set proportionately to th pre-out or line-out voltage rating of the head unit or processor.

If the signal strength is 4V then the gain would be adjusted to about 45-50%. Below is a list of commonly found voltage ratings and their appropriate gain adjustments. When adjusting the gains you want to start with the bass boost setting on the amp set to minimum and bass adjustments on the head unit or processor are set at 0 or flat. As these other settings for bass adjustments are increased, the gain setting will need to be adjusted lower.

2V ≥ 70%
4V ≥ 45%
5V ≥ 32.5
8V ≥ 5% (Bass boost must be left at minimum on the amp and 0 or flat on the head unit or processor)
10V ≥ Can not be used with this amplifier

If your amplifier includes **Hi-Level (speaker wire) inputs** and you are using them for the audio signal connection, please use the below steps to adjust the amplifier. Start with a song with good bass that you know very well.

1. Use a screwdriver to turn GAIN (8V/0.2V) fully counterclockwise to 8V
2. Turn the auto sound system's volume control to about 3/4 of its full range. Any higher normally leads to the signal being distorted.
3. Turn up the amplifiers gain / level control until the sound begins to distort, then immediately gain / level down to a point just before where the distortion began.
4. Adjust the auto sound system's volume control to a comfortable listening level and you are good to go.

Note: The steps to adjusting the gain / level control need to be repeated when you adjust any bass boost settings on the amplifier, processors or significantly on the head unit. Adjusting bass boost settings significantly without adjusting the gain / level can lead to a distorted signal and damage to the amp and speakers.

IMPORTANT NOTE: If you should have any questions concerning the installation or settings on your amplifier or are unsure of anything discussed in this manual, please contact out Technical Support department at 1-800-488-8595 for help. It is much better to take 5 minutes today to get it right then to adjust the settings incorrectly and have a problem with your amp or speakers.

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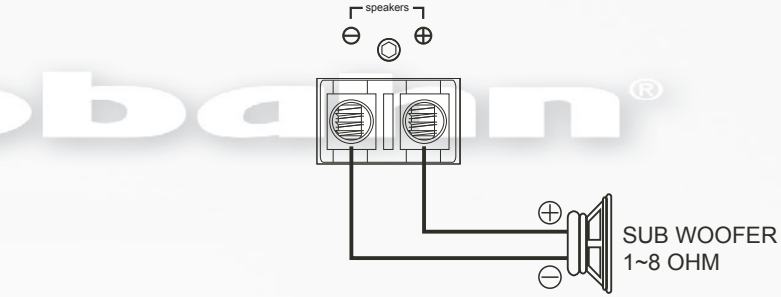
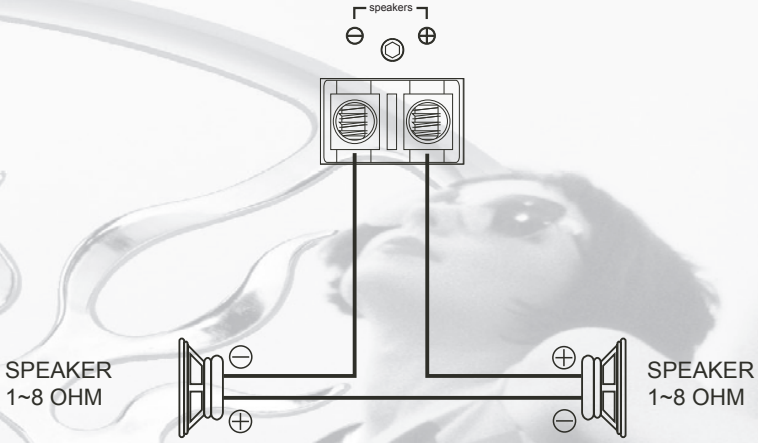
MONO MODE





You can find more wiring diagrams in the Tech Tips at the end of the manual and on our web page: www.audiobahn.com

Troubleshooting

SYMPTOMS	CHECK POINTS	CURE
NO SOUND	Is the power LED illuminated ? (NO)	Check fuses in amplifier. Be sure Turn-on lead is connected Check signal leads. Check gain control. Check Tuner/Deck volume level. Clean contacts on fuse holders.
	Is the Diagnostic LED illuminated ? (YES)	Check for speaker short or Amplifier overheating.
AMP NOT SWITCHING ON	No power to power wire	Repair power wire or connections.
	No power to remote wire with receiver on	Check connections to radio.
	Fuse broken	Replace fuse.
NO SOUND IN ONE CHANNEL	Check Speaker Leads	Inspect for short circuit or an open connection.
	Check Audio Leads	Reverse Left and Right RCA inputs to determine if it is occurring before the amp.
AMP TURNING OFF MEDIUM/HIGH VOLUME	Check speaker load impedance	Be sure proper speaker load impedance recommendations are observed. (If you use an ohmmeter to check speaker resistance, please remember that DC resistance and AC impedance may not be the same.)
STATUS LAMP ON	Temperature shut down	Turn radio down
	Speaker wires short	Separate speaker wires and insulate

Technical Support (800) 488-8595 / tech@audiobahn.com

WARNING

Investigate the layout of your automobile thoroughly before drilling or cutting any holes. Take care when you work near gas tanks, gas lines, hydraulic lines, and electrical wiring. Do not use the power amplifier unmounted. Attach the system securely to the automobile to prevent damage, particularly in the event of an accident. Do not mount the system so that the wire connections are unprotected or are subject to pinching or damage from nearby objects.

The +12V DC power wire must be fused at the battery positive terminal connection. Before making or breaking power connections at the system power terminals, disconnect the +12V wire at the battery end. Confirm your radio/head unit and/or other equiptment is turned off while connecting the input jacks and speaker terminals. If you need to replace the power fuse, replace it only with a fuse identical to that supplied with the system. Using a fuse of a different type or rating may result in damage to this system which is not covered by the warranty.

Disclaimer

Specifications are subject to change without notice.
For the most updated Specifications call Audiobahn,
your local Authorized Audiobahn Dealer,
or check the Audiobahn web site.
www.audiobahn.com

Technical Support (800) 488-8595 / tech@audiobahn.com

Audiobahn Consumer Product Warranty Policy

Audiobahn products are manufactured with the highest quality components and some of the most advanced technology available. Because of this, we recommend that you have your new products installed by an **Authorized Audiobahn Dealer**. **(A list of Authorized Audiobahn Dealers can be found on our web page).**

Warranty Period: One year from the original date of purchase.

Warranty Coverage: This warranty covers manufacturer defects only. The warranty is applicable to the original purchaser, and is non-transferable. You must provide a receipt from an **Authorized Audiobahn Dealer** that shows the location of purchase, price paid, and date of purchase.

(Products purchased by consumers from an **Authorized Audiobahn Dealer** outside the United States are covered only by the Distributor of that specific country and are not covered by **Audiobahn**).

Notes:
Complete subwoofer enclosures (**Audiobahn** will replace defective subwoofers, plexiglass, or neon only. Do not send the entire enclosure, unless the enclosure is defective itself. You must receive prior authorization and an RA# before sending in any complete enclosure).

AUDIOBAHN DOES NOT WARRANTY ANY PRODUCTS NOT PURCHASED THROUGH AN AUTHORIZED DEALER.
(A list of Authorized Audiobahn Dealers can be found on our web page).

AUDIOBAHN WARRANTIES DO NOT COVER THE FOLLOWING:

- Any product not purchased from an **Authorized Audiobahn Dealer** (including Internet dealers)
- Damage caused by abuse, misuse, accident, water / flood, or theft (including any cosmetic damage to the body of the product)
- Damage caused by improper installation
- Any cost or expense related to removal or reinstallation
- Any unauthorized services
- Any product that has the serial number removed, altered, or defaced
- Subsequent damage to any other components
- Pinched, cut, or stripped wires / terminals
- Any product that is new, and/or found to be in working condition
- L.E.D. indicators on electronics (**Audiobahn** will only replace L.E.D.(s) found to be defective at the time of purchase)

How to receive warranty service: Contact your local **Authorized Audiobahn Dealer**, or call **Audiobahn** at **(800) 488-8595** between the hours of 9:00 AM and 5:00 PM PST.

If you are having problems with your system, we recommend you check the product carefully and thoroughly to confirm that the product truly has a manufacturer defect; as opposed to abuse, or other components in the system causing the failure. This might include having an **Authorized Audiobahn Dealer** look at the product to confirm the source of the problem. Any product found to have a manufacturer defect will be replaced with a new piece of the same or similar model, or repaired at the discretion of **Audiobahn**. Any product found to have no manufacturer defect will be returned to the sender at their cost.

You must acquire a Return Authorization Number (#) prior to returning ANY product to Audiobahn. That Return Authorization Number (RA#) must be prominently and clearly marked on the outside of the shipping carton, or product delivery will be refused (no exceptions will be made).

Please note: All shipping and handling (to and from) charges will be the sole responsibility of the consumer.

Please record and keep your Return Authorization Number (RA#) in the event that further communication is required.

Return Authorization Number (RA#): _____

Date product was sent: _____

Contact Information

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